

REMARKS

Claims 1-8 and 11-19 are pending in the application. Claims 1-5 and 18 have been withdrawn from consideration. Claim 19 is added.

Although the Examiner has indicated in the Office Action Summary that claims 1-5, 9, 10, and 18 have been withdrawn from consideration, Applicants note the claims 9 and 10 have been canceled in the Reply filed on July 14, 2009.

Claim Rejections - 35 U.S.C. § 112

Claims 6-8 and 11-18 have been rejected under 35 U.S.C. § 112, second paragraph, because of some informalities.

In view of this, amendments have been made to claim 6 to overcome this rejection. In particular, Applicants have removed the phrase “a controller that detects,” and have revised the claim to instead recite “so as to maintain the heater submerged in the water.”

The Examiner is respectfully requested to reconsider and withdraw this rejection.

Election/Restriction

Claim 18 has been withdrawn from consideration as being drawn to a non-elected invention. Applicants request that withdrawal of claim 18 be reconsidered.

The Examiner alleges that claim 6 is not directed to a steam generator because there is no recitation of “steam” or “generator” in the body of the claim.

Applicants submit that at least “steam generator” in claim 18 should be provided antecedent basis to “steam generator” in claim 6. Applicants submit that it is improper to ignore “steam generator” in claim 6, then allege that claim 18 is independent of the invention in claim 6.

As claim 6 explicitly recites elements comprised in a steam generator, claim 18 which invokes antecedent basis to the steam generator of claim 6 is related to claim 6 as combination and subcombination.

In the case of inventions related as combination and subcombination, MPEP 806.05 specifies that the inventions are independent and distinct if it can be shown that the combination as claimed:

- (A) does not require the particulars of the subcombination as claimed for patentability; and
- (B) the subcombination can be shown to have utility either by itself or in another materially different combination.

When these factors cannot be shown, the inventions are not distinct.

In the present application, the combination as claimed in claim 18 does require the particulars of the subcombination recited in claim 6. Subsequently, Applicants submit that claims 18 and 6 are not independent and distinct.

For at least these reasons, claim 18 should be examined.

Claim Rejections - 35 U.S.C. 103

Claims 6-8 and 11-17 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Su (USP 5,458,050) in view of Yang (USP 6,310,322) and Alvarez (USP 5,479,707). This rejection is respectfully traversed.

Summary of the Invention

The present invention relates to a steam cooker that can speed up the start of superheated steam generation by maintaining the water level in the pot as low as possible, enabling a reduced cooking time.

To maintain the water level at a low level in the pot, an accurate detection of the water level by the water level sensor is required. In a disclosed embodiment, a self-heating thermistor is used as the water level sensor (specification at [0051]). The self-heating thermistor detects the water level utilizing a difference in heat radiation coefficient between the water and the air (specification at [0017]). Thus, unlike a float type water level sensor, the water level sensor has a simple structure with no movable portion and that can accurately detect the water level (see specification at [0083]).

When, however, the self-heating thermistor is solely used, a detected temperature in a certain range may correspond to both an ambient temperature when it is in the water and an ambient temperature when it is in the air. In that case, it is impossible to correctly detect the ambient state.

For example, referring to Fig. 11, when the temperature detected by the self-heating thermistor is about 130 °C or lower, it can be judged that the self-heating thermistor (and hence, the heater) is in the water, and when the temperature detected by the self-heating thermistor is above 140 °C, it can be judged that the self-heating thermistor (and the heater) is in the air. However, when the detected temperature is between about 135 °C and 140 °C, it cannot be judged from the reading of the self-heating thermistor alone whether the thermistor as a water level sensor is in the water (in which case the ambient temperature is about 100 °C) or in the air (in which case the ambient temperature is about 30 °C).

To solve these problems, in the present invention, a temperature sensor is auxiliary used to detect the ambient temperature, from which a reference temperature is determined in order to discriminate whether the temperature detected by the self-heating thermistor is a temperature in the water or a temperature in the air (specification at [0086]).

Subsequently, based on judgment results using the temperatures detected by the water level sensor and the temperature sensor, the control unit controls the pump so as to keep the water level in the pot sufficient to keep the heater submerged in the water. (specification at [0079])

Differences over the Cited Prior Art

The Office Action relies on the combination of Su, Yang, and Alvarez for teaching all claimed features. Applicants submit that Su, Yang, and Alvarez fail to teach at least one claimed feature.

Applicants submit that, although both Su and Yang teach detection of temperatures by a thermistor or thermistors, the references fail to teach use of an output from a temperature sensor in obtaining a reference value to use in conjunction with a self-heating thermistor in order to control the amount of water in a pot. The Office Action alleges that Alvarez discloses using a self heating thermistor as a water level sensor.

Applicants submit that the combination of Alvarez and Su of incorporating Alvarez's two heating self-heating thermistors 321 and 323 for low level detection and full level detection, cannot provide a solution to the problem in detection of the water level while the steam generator is heated. In particular, the combination of Alvarez and Su still fails to teach judging whether the

temperature detected by a self-heating thermistor represents a temperature when the thermistor is in the water or a temperature when the thermistor is in the air.

Subsequently, Applicants submit that Su, Yang, and Alvarez, either alone or in combination, do not teach or suggest “a controller that controls an amount of water in the pot based on an output from a water level sensor and an output from the temperature sensor so as to maintain the heater submerged in the water, wherein the water level sensor is a self-heating thermistor, and

wherein the controller judges whether the heater is submerged in the water or not by obtaining a reference value based on the output from the temperature sensor and comparing the output from the water level sensor with the reference value,” as recited in claim 6, as amended.

Claims 7, 8, and 11-17, variously dependent on claim 6, are allowable at least for their dependency on claim 6.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

New Claim

Claim 19 has been added and recites previously unclaimed features disclosed in the present application. Applicants submit that at least for its dependency on claim 6, claim 19 is allowable as well.

Conclusion

Accordingly, in view of the above amendments and remarks, reconsideration of the rejections and allowance of the pending claims in the present application are respectfully requested.

The Examiner is respectfully requested to enter this Amendment After Final in that it raises no new issues. Alternatively, the Examiner is respectfully requested to enter this Amendment After Final in that it places the application in better form for Appeal.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Robert Downs** Reg. No. 48,222 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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